

**Amendments to the Specifications**

Please add the following new paragraph after paragraph [0006] at page 3, after line 6:

C1 [0006.1] Gear pumps earlier herein described as well known in the art include gear pumps as shown in my previous Patent No. 6,152,715 (dated November 28, 200). Additional gear pump constructions are shown in Kalle Patent No. 2,936,717 (dated May 1960); Dworak et al. Patent No. 4,465,444 (dated August 1984); Lipscombe, Brian R. Patent No. 4,606,713 (dated August 1986); Martin et al. Patent No. 4,127,365 (dated November 1978); and Gordon Patent No. 3,280,756 (dated October 1966). The gear pumps disclosed in the foregoing patents are not suitable for use in place of Applicant's novel pump; since all appear to require being bolted together, with the exception of the pump shown in the 715 Patent, construction or complicated constructional details. They all will fall apart when reversing the flow direction if they are not mechanically held together.

Please replace paragraph [0014] beginning at line 12, at page 6, with the following amended paragraph:

C2 [0014] In summary, the actuator operates as follows: when the electric D.C. Motor is rotating counterclockwise, the piston rod is extending from the hydraulic cylinder or actuator. When the motor is rotating ~~counterclockwise~~, the piston rod is retracting into the actuator cylinder. When the electric motor is off the piston rod is hydraulically locked into position.

Please delete paragraph [0029], consisting of lines 13 and 14, at page 10, which starts with, "Figs. 3, 4, 5, and 6 illustrate schematically".

Please replace paragraph [0035], beginning at line 4, at page 12, with the following amended paragraph:

C3 [0035] **Fig. 5** is a view like **Fig. 4** but with the component parts e.g. **ball valves, check valves etc.** shown in operative relationship/fashion for actuating the piston into its ~~retracted~~ extended position direction.

Please replace paragraph [0036], beginning at line 7, at page 12, with the following amended paragraph:

C4 [0036] Fig. 6 is a sectional view like Figs. 4 and 5 but with the component parts e.g. ball valves, etc. shown in operative relationship/fashion for actuating the piston into its ~~extended~~ retracted ~~position~~ direction.

The "original" pages 14a through 14j, have been "amended" as follows:

TABLE 1

#1a	D.C. Motor
#2a	Pump
#3a	Actuator/Cylinder
#4a	Piston Rod
#3b	Actuator Cylinder Assembly

TABLE 2

# 1a	D.C. Motor
# 5a	Relay or Manual Switch
# 6a	Passage ( <del>Pump</del> to piston <u>C</u> ylinder to <u>for E</u> xtend)
# 7a	Passage ( <del>Pump</del> to <del>Piston</del> Cylinder <del>to</del> <u>for</u> Retract)
# 4b	Piston
# 9a	Cylinder For Piston
# 4a	Piston Rod
# 8a	Passage (Reservoir To Pump Inlet)
# 2a	Pump
#13a	Reservoir
#45	Guide End
#41	Piston Seal

TABLE 3 SCHEMATIC

#4a	Piston Rod
#4b	Piston
#3a	Actuator/Cylinder
#10a	Extend
#11a	Retract
#6a	Passage To Piston Cylinder For Extend
#2a	Pump
#8a	<u>Passage</u> Reservoir To Pump Inlet
#13a	Reservoir
#14a	Pump Cylinder End Cap
#15a	Pump Lower Chamber
#16a	Pump Upper Chamber
#7a	Passage To <del>Piston</del> Cylinder To Retract
14c	Wall

14a

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TABLE 4 SCHEMATIC (LOCKED POSITION)

#4a	Piston Rod
#3a	<u>Actuator/Cylinder</u>
#4b	Piston
#35	Drive Shaft (Stationary)
#18a	Check Valve (Closed)
#19a	Pilot Piston ( <u>Controls Check Valve 18a</u> )
#20a	Check Valve (No Spring-Closed)
#21a	Check Valve ( <del>Open</del> ) <u>Bottom Side</u> (Closed)
#2a	Pump
#13a	Reservoir
#14a	Pump Cylinder End Cap
#23	Check Valve (Closed)
#24	End Cap
#25	Pilot Piston ( <u>Controls Check Valve 23</u> )
#26	Cover
#34	Gear Housing
#28	Check Valve (No Spring-Closed)
#29	Cover
#30	Check Valve (Closed)
#31	End Cap
#15a	Pump Lower Chamber
#16a	Pump Upper Chamber
#8a	Passage Reservoir To Pump Inlet

TABLE 5 SCHEMATIC (~~RETRACTED~~ EXTENDED POSITION)

#4a	Piston Rod
#3a	Actuator/Cylinder
#4b	Piston
#18a	Check Valve (Open)
#32	Pilot Piston
#20a	Check Valve (No Spring-Closed)
#21a	Check Valve (Open)
#2a	Pump
#13a	Reservoir
#14a	Pump Cylinder End Cap
#23	Check Valve (Closed)
#24	End Cap
#25	Pilot Piston
#34	Gear Housing
#28	Check Valve (No Spring-Open)
#29	Cover
#30	Check Valve (Closed)
#31	End Cap
#35	Drive Shaft (Counterclockwise Rotation)
#8a	Passage Reservoir To Pump Inlet
#6a	Passage To Piston Cylinder To Extend
#7a	Passage To Piston Cylinder To Retract
#19a	<u>Pilot Piston Shaft Side</u>
#26	<u>Bottom Cover</u>

TABLE 6 SCHEMATIC (~~EXTENDED~~ RETRACTED POSITION)

#4a	Piston Rod
#3a	Actuator/Cylinder
#4b	Piston
#35	Drive Shaft ( <del>Moving</del> Rotating Clockwise)
#18a	Check Valve
#19a	Pilot Piston
#20a	Check Valve (No Spring – Open)
#21a	Check Valve (Closed)
#2a	Pump
#13a	Reservoir
#14a	Pump Cylinder End Cap
#23	Check valve (Open)
#24	End Cap
#25	Pilot Piston
#26	Cover
#34	Gear Housing
#28	Check Valve (No Spring-Closed)
#29	Cover
#30	Check Valve (Open)
#31	End Cap
#6a	Passage to Piston Cylinder to Extend
#7a	Passage to Piston Cylinder to Retract
#8a	Passage reservoir To Pump Inlet

TABLE 7 MOTOR END OF PUMP WITHOUT PUMP RETAINER

#35	Drive Shaft
#37	Idler Shaft
#4e 31	Motor End of Pump (Without Pump Retainer) End Cap Shaft Side

TABLE 8 TOP ONE HALF of PUMP WITH RETAINER

#35	Drive Shaft
#39	Pump Retainer
#18a	Check Valve
#2a	Pump
#31	End Cap
#29	Cover ( <u>Shaft Side</u> )
#26	Cover ( <u>Bottom Side</u> )
#24	End Cap
#25	Pilot Piston
#20a	Check Valve (No Spring)
#21a	Check Valve
#23	Check Valve
#19a	Pilot Piston
#40	Gear Only
#2a/39	Pump with Pump Retainer
#28	Check Valve (No Spring)
#30	Check Valve
#39a	<del>Pump Retainer</del>
#35	<del>Drive Shaft</del>
#14a	<u>Retainer Nut</u>

TABLE 9

1a	Motor
#35	Drive Shaft to Motor
#40	Gear
#6a	Passage ( <del>pressure to extend</del> ) (to Cylinder for Extend)
#4a b	Piston
#4b a	Piston Rod
#7a	Passage to Piston Cylinder to Retract
#41	<u>Piston Seal</u>
#24	End Cap ( <u>Bottom</u> )
#13a	Oil Reservoir
#8a	Passage Inlet
#14a	Pump Cylinder End Cap
#37	Idler Shaft
#26	Cover ( <u>Bottom Side</u> )
#2a	Pump
#42	Gear
#29	Cover
#43 39	Pump Retainer
#31	End Cap

TABLE 10

#7a	Passage to Cylinder for Retract
#44	Plug
#4a	Piston Rod
#45	Guide End
#9a 3a	<u>Actuator/Cylinder</u>
#13a	Oil Reservoir
#45a	O-Ring

TABLE 11 DRIVE END PARTS

#46	<u>Opening Fluid Passage</u>
#31	End Cap ( <u>Shaft Side</u> )
#29	Cover ( <u>Shaft Side</u> )
#47	Dowel Pin
#35	Drive Shaft
#37	Idler Shaft
#48	Dowel Pin
#25 19a	Pilot Piston (Shaft Side)
#49	<u>Fluid Passage</u>



TABLE 12

#35	Drive Shaft
#47	Dowel Pin
#50	Gear Key Ball
#40	Gear <u>Idler</u>
#34	Gear Housing
#21a <u>25</u>	Pilot Piston ( <u>Bottom Side</u> )
#26	Cover ( <u>Bottom Side</u> )
#28 <u>23</u>	Check Valve (In Place)
#24	End Cap ( <u>Bottom</u> )
#6a <u>46</u>	Opening <u>Fluid Passage</u>
#18a <u>21a</u>	Check Valve (In Place)
#20a	Check Valve (No Spring)
#42	Gear
#48	Dowel Pin
#53	Gear Key Ball
#37	Idler Shaft

TABLE 13 (END CAP)

#46	Opening <u>Fluid Passage</u>
#7a	<del>Fluid Passage to Cylinder to Retract</del>
#54	Hole For Dowel Pin
#30	Check Valve ( <u>Shaft Side</u> )
#55	Hole For Dowel Pin
#49	Outlet Fluid Passage
#56	Check Valve Seat
#18a	Check Valve ( <u>Shaft Side Pilot Piston</u> )
#56a	Check Valve Seats
#31	End Cap ( <u>Shaft Side</u> )

**TABLE 14 (COVER)**

#7a 46	Fluid Passage to <del>Cylinder to Retract</del>
#60	Hole For Idler Shaft
#7a 46	Fluid Passage
#54	Hole For Dowel Pin
#58 62	Hole For Drive Shaft
#20a 28	Check Valve (No Spring)
#55	Hole For Dowel Pin
#19a	Pilot Piston
#29	Cover

TABLE 15 PUMP

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#2a	Pump
#39	Pump Retainer
#46	<u>Opening Fluid Passage</u>
#35	Drive Shaft To Motor
#31	End Cap <u>Shaft Side</u>
#29	Cover ( <u>Shaft Side</u> )
#34	Gear Housing
#26	Cover ( <u>Bottom Side</u> )
#24	End Cap ( <u>Bottom</u> )
#40	Gear <u>Idler</u>
#58	Gear Key Ball
#6a 46	<u>Opening Fluid Passage</u>
#59	Gear Key Ball
#42	Gear
#37	Idler Shaft

TABLE 16

#42	Gear
#7a 46	Fluid Passageway
#53	Gear Key Ball
#40	Gear
#34	Gear Housing
#61 47	Dowel Pin
#35	Drive Shaft To Motor
#50	Gear Key Ball
#48	Dowel Pin
#7a 46	Fluid Passageway
#37	Idler Shaft

C5  
**TABLE 17 (Cover)**

#7a 46	Fluid Passage
#60	Hole For Idler Shaft
#20a	Ball Valve (No Spring)
#46	Fluid Passage
#25	Pilot Piston
#54	Hole For Dowel Pin
#62	Hole for Drive Shaft
#29	Cover
#26	Cover (Bottom Side)
#55	Hole for Dowel Pin

TABLE 18 END CAP

#53	Ball Valve
#50 21a	Ball Check Valve
#7a 49	Fluid Passage
#54	Hole For Dowel Pin
#6a 46	Opening Fluid Passage
#55	Hole For Dowel Pin
#7a 49	Fluid Passage
#23	Check Valve (Bottom Side)
#24	End Cap (Bottom Side)

#3a <u>See FIG. 4</u>	LOCKED/Actuator hydraulically locked into position
#2a/10a <u>See FIG. 5</u>	EXTEND/Pump rotating counterclockwise
#2a/11a <u>See FIG. 6</u>	RETRACT/Pump rotating counterclockwise

**TABLE 20**

#63	(2) 3/8 16 UNC 0.375 DEEP
#64	Ø.625 2.500 ACROSS COUNTER SINKS
#65	Ø.625
#66	ROD END PER CUSTOMER SPECIFICATIONS
#67	5.72 + STROKE
#68	5.09 + STROKE
#70	3.75 MOTOR M300-1 3.82 MOTOR M300-2
#71	Ø2.50

**TABLE 21 ACTUATOR 125-35**

**Force, Speed Current Draw**

#72	Force No's.
#73	Speed, in/sec
#74	Force extend
#75	Force Retract
#76	Speed Extend
#77	Speed Retract
#78	12 Volt DC

**FIG. 22**

#3a	ACTUATOR 125-035 WEIGHT
#79	WEIGHT, LBS
#80	STROKE, IN

Please delete paragraph [0050], at page 14, consisting of lines 6, 7 and 8, which starts with, "FIG. 19 is a sectional view of the pump..."

Please replace paragraph [0058], beginning at line 1, on page 17 with the following amended paragraph:

C6 [0058] Referring now specifically to the drawings, there is disclosed in FIG. 1, a side elevation view of an actuator/cylinder assembly (3b) inclusive of an electric motor (1a) at one end, a piston (4b) and piston rod (4a) assembly at the other end, and intermediate, a bi-rotational pump (2a) in accordance of the present invention.

Please replace paragraph [0060], beginning at line 12, page 17 (and ending on page 18), with the following amended paragraph:

C7 [0060] For purposes of clarity Fig. 3 is schematic in that the bi-rotational pump (2a) and its reservoir enclosure (13a) and the actuator cylinder (3a), including piston rod (4a) and piston (4b), are shown in distinct, vertically spaced relationship. The reservoir (13a) is connected to situated below bi-rotational the pump (2a), by an inlet (8a) leading to the interior of the pump (2a) is the source of fluid which passes (via inlet (8a) into and through the pump into either the lower chamber (15a) or upper chamber (16a) depending upon the direction of the rotation of the pump (2a). [Chambers (15a) and (16a) are separated by wall (14a).] The pump (2a), depending on the clockwise (cw) or counterclockwise (ccw) direction it is rotating, discharges pressurized fluid to the upper (16a) or lower (15a) chamber of the pump enclosure and then, by suitable Internal passageways, to the actuator cylinder (3a) thereabove, to which it connects on either one side or the other of the piston which moves the piston rod (4b) to and fro to the left and to the right depending on the hydraulic pressure developed by appropriate rotational movement of the gears (not shown). Continued rotation of the pump (2a) and the corresponding gears (40 and 42) urges fluid either out of chamber (15a) or (16a) via conduit (6a) or (7a) upwardly into one or the other ends of the actuator (3a). This liquid pressure in the actuator (3a) causes a movement of the piston (4b) and connected piston rod (4a) in either a retract or extend direction. The above discussion of FIG. 3 is more detailed in the explanation of FIGS. 4, 5 and 6 hereinafter taken also with the data in TABLE X below in which Column 1 identifies the ball valves in question.

TABLE X

<u>VALVE</u>	<u>FIG. 4</u> <u>No Rotation</u>	<u>FIG. 5</u> <u>ccw</u> <u>Lower Chamber (15a)</u> <u>Extend</u>	<u>FIG. 6</u> <u>cw</u> <u>Upper Chamber (16a)</u> <u>Retract</u>
23	valve closed	valve closed	valve open
18a	" closed	" open	" closed
21a	" closed	" open	" closed
30	" closed	" closed	" open
20a	" n/a	" closed	" open
28	" n/a	" open	" closed

C1 The other columns identify FIGS. 4, 5, and 6 showing the position of the valve as either open or closed, depending upon the rotation of the driveshaft (35) and the connecting gears. FIG. 4 shows the valve position where there is "no rotation" of the driveshaft (35). FIG. 5 shows the position of the various valves (open or closed) where the rotation of the driveshaft (35) is counterclockwise (ccw). FIG. 6 shows the open or closed position of the corresponding valve when the driveshaft (35) is rotating in a clockwise (cw) rotation. TABLE X also shows in the column headed FIG. 5 that the piston (4b) is in an extended direction with counterclockwise rotation while FIG. 6 shows that the valve positions, as shown, for achieving a retracting movement of the piston (4b) and the connected piston rod (4a).

Please replace the paragraph [0061], beginning at line 5, at page 18 with the following amended paragraph:

C8 [0061] ~~In-FIG. 4, is like FIG. 3 excepting that the pump is shown to disclose a central gear housing (34) on either side of which are located cover members (26/29) and end cap members (24/31) (as shown). The as noted in TABLE X, represents a "no rotation" position of the drive shaft (35) and for the intermeshing gears (not shown) is situated vertically and axially respective the concentric gears, covers and end caps. In FIG. 4, the drive shaft (35) is not rotating as the electric motor (1a) as controlled by the switch (neither of which are shown) is in the off position. Consequently, all ball valves shown are in the closed position, and while the space surrounding the pump body, all lines and the actuator interior, contain liquid, such is~~

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~~stationary (no movement, Of special note, check wherein valves (30, (18a), (21a) and (23) are closed. are not. Of further note are They are closed because with "no rotation" of the driveshaft (35) there is no pressure in either chamber (15a) or (16a) to actuate the pilot pistons (25/19a) either of which would open the corresponding valves (18a) or (23) respectively. Likewise valves (30) and (21a) are closed and held closed by the spring as shown because there is no pressure to overcome the resistance of the spring holding the respective valves (30) and (21a) in the closed position. which slide upwardly and downwardly, as shown, responsive to pressure in the lines at the end thereof and when pressurized they move respectively downwardly or upwardly to compress a ball and spring and thus allow fluid to flow around same.~~

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Please delete paragraph [0062], at page 18, consisting of lines 19 and 20, which starts with, "The accompanying FIG. 19".

Please replace paragraph [0063], beginning at line 1, page 19 with the following amended paragraph:

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09  
[0063] Referring to FIG 5 and TABLE X the driveshaft (35) is rotating in a the position of the parts such as ball valves etc. are the result of counterclockwise (ccw) movement direction of the pump shaft (35) whereby resulting in a gradual build up of pressure is developed in the lower half chamber (15a) of the pump (2a) and moves fluid up the left outlet to the interior of the As a result of the pressure exerted upwardly against pilot piston (19a) sufficient to compress the ball (18a) against the opposed spring thereby opening valve (18a). Simultaneously the pressure build up in the lower chamber (15a) compresses ball (21a) against the opposed spring opening the valve (21a). Also simultaneously the ball valve (20a) is held in the closed position by the increased pressure. More importantly the more increased pressure causes the fluid to proceed as exiting (as shown by the arrow) out conduit (6a) into the right side of the ~~cylinder~~ actuator (3a) causing movement of exerting pressure on the piston (4b), and connecting rod (4a) to the right to the retract position. At the same time the hydraulic fluid on the other side of the piston (4a) is moving this forces the piston (4b) to the left to the extend position. This displaces the liquid to the left of piston

09 (4b) down conduit (7a) and into the upper chamber (16a) as noted. This gradually increases the pressure in the upper chamber (16a), which is relieved by the opening or the downwardly to the upper chamber (16a) and through the pump (2a) in a manner illustrated by the arrows and open position of the movement of the ball valves (28) (28, 18a, 20a) and the arrows and the closed position of ball valves (23, 30, 20a) and also the valve (18a) urged upwardly by the pilot piston (19a). Of course, the pressure in chamber (15a) still occurs by reason of the counterclockwise movement of the driveshaft (35) and the intermeshing gears (40 and 42).

Please replace paragraph [0064], beginning at line 10, at page 19, with the following amended paragraph:

010 [0064] Referring now to FIG. 6 and TABLE X the parts/components of the pump (2a) and the actuator (3a) are shown ~~for when the drive shaft (35) is moving in a clockwise (cw) movement direction of rotation, of the drive shaft (35) resulting in movement to the left of the piston (4b) to the right into the retracted position, and the piston rod (3a) as indicated by the arrow (3a).~~ The clockwise (cw) movement of the drive shaft (35) reverses the rotation of the pump, the direction of the flow of The fluid from the pump (2a) and the direction of the now exerted pressure causing the ball valves (28, 18a, 21a) that were open to become closed and ball valves (23, 30, 20a) that were closed to become open. As a result then, this reversal of the rotation causes the fluid to moves out of the upper chamber (16a), under pressure, through conduit (7a) into the actuator (3a) via to the left of piston (4b). side conduit and to the bottom half This in turn moves liquid out of the opposite end of the actuator (3a) down conduit (6a) into the lower chamber (15a) and through valve (23) back to the reservoir (13a) to initiate a reversal to the FIG. 5 condition by reason of changing the rotation of pump (2a) from clockwise (cw) to counterclockwise (ccw). enclosure. Thus, as indicated above, the clockwise (cw) movement causes ball valves (23, 30, 20a) to open while ball valves (28, 18a, 21a) are closed.

Please add the following new paragraph after paragraph [0064]:



CH [0064.1] The foregoing description of FIGS. 4, 5 and 6 as well as FIG. 3 in conjunction with TABLE X discloses the movement of the liquid passing through the bi-rotational pump under all possible conditions in terms of the opening or closing of the ball valves affected thereby. It is an important aspect of the present invention, of course, that the outer axial area of the bi-rotational pump, namely that of the cover and the end cap is greater than the inside axial pressure of the pump whereby there is a force exerted axially on the end cap and cover forcing the cover members and end cap members toward each other axially, as indicated, or inwardly creating a clamping force on both sides of the intermeshing gears thereby resisting any outward movement of the cover or end cap member even though they are not bolted or otherwise secured together. This achieves a reduction in weight which in turn promotes a simplicity of construction of the bi-rotational pump of the present invention.

Please replace paragraph [0069], beginning at line 7, page 21 with the following amended paragraph:

C12 [0069] Referring to Fig. 9, there is shown, in a side elevation view, with a portion broken away to show the interior structure. Thus, as shown the drive shaft (35) and the idler shaft (37) and secured thereto the intermeshing gears (40 and 42) (but not shown) and located inside of gear cover (34). (See FIGS. 15 and 16). FIG. 9 also shows the motor (1a) located to the left of the drive shaft (35). On each side of the intermeshing gears (40 and 42) and the gear housing (34) (See FIG. 8) are cover members (26 and 29) and end cap members (24 and 31). the oil reservoir Numeral (13a); identifies the reservoir for fluid which by action of the pump is drawn through the inlet (8a) into the centermost part of the pump, while the conduit (6a) and (7a) carries the fluid respectively to the near side of the piston or to the far side of the piston (See FIG. 10). Thus, as indicated hereinbefore the counterclockwise rotation of the gears and drive shaft (35) effect the flow of the fluid, and, as well, the propagation of the pressure of the fluid out conduit (6a) to the near side of the piston (4b) which causes the rod (4a) to extend to the outer position. Conversely, a clockwise rotation of the driveshaft (35) will cause fluid to flow through the outlet (7a) to the end

C12  
extremity (See FIG. 10) displacing or causing a retraction movement of the piston in the actuator (3a). In each case, the pressure side of the piston (4b) will cause displacement of the fluid on the other side of the piston (4b) which will cause a return of fluid to the pump (2a) in the manner explained in FIGS. 5 and 6 via the inlet (passage 8a), as connected fluidly to the central portion of the pump (2a), as quite clearly illustrated; as are the outlets respectively identified as passageway (6a and 7a). Now as shown in Figs. 2 and 9, passage (6a) connects the outlet of the pump (2a) to the actuator cylinder (3a) on the extended side of the piston (2a) to achieve extension of the piston rod (4a); while note passage (7a) connects the pump outlet a to carry the liquid fluid to the cylinder as shown, at the extremity of the cylinder to achieve movement of the piston/shaft (4b/4a) to the left and thus in a retracting movement.

Please replace paragraph [0070], beginning at line 17, at page 21 with the following amended paragraph:

C13  
[0070] Fig. 8 is a sectional view of the top half of the pump (2a) and shows clearly the pump retainers (14a / and 39) at each of the ends and exteriorly axially of the end cap members (31/34 and 24).

Please replace paragraph [0071], beginning at line 20, at page 21 (and ending on page 22), with the following amended paragraph:

C14  
[0071] FIG. 10 shows the oil reservoir spaces (13a) surrounding the piston rod/cylinder(9a) (3a) and the journaling of the right or terminal end of the piston rod (4a) and the outer end (6a) of the cylinder (9a) (3a). This Fig. also shows passage (7a) delivering hydraulic fluid under pressure to the terminal end of the piston rod (4a) and cylinder (9a) (3a) arrangement. These parts are shown generally in fluid sealed relationship mounted in the guide end (45) identified in Fig. 10.

Please replace paragraph [0073], beginning at line 9, at page 22 with the following amended paragraph:

C15 [0073] Fig. 12 is like Fig. 11 but shows the component parts particularly the gear housing (34) the right hand cover (26) and the right hand end cap (24), in exploded perspective view, to show the dowel pins (47/48), the idler shaft (37), and the drive shaft (35), the gears (40/42), and a passageway ~~(6a)~~ (46) for the fluid. Ball type check valves ~~(28 23 and 18a 21a)~~, the pilot piston ~~(21a)~~ (25) and check valve with no spring (20a) are also shown in FIG. 12 due to the exploded nature of the drawing.

Please replace paragraph [0074], at page 22, with the following amended paragraph:

C16 [0074] Fig. 13 is also an exploded view, somewhat enlarged, of the left side end cap (31) and the opening (46) necessary to accommodate the drive shaft (35), and idler shaft (37) and openings (54/55) for dowel pins (47/48) respectively (not shown). FIG. 13 also shows the outlet fluid passages (7a 49). Reference numeral (18a) shows an exploded view of the valve seat (56) and the corresponding ball and spring elements in spaced apart relationship. The same exploded relationship is shown for the check valve assembly (30).

Please replace paragraph [0075], beginning at line 1, at page 23, with the following amended paragraph:

C17 [0075] Fig. 14 is like Fig. 13, that is, exploded, and shows the left hand cover member ~~(24)~~ (29) and, as well, a pilot piston (19a) and the spring-opposed ball check valve ~~(20a)~~ (28).

Please replace paragraph [0077], beginning at line 8, at page 23, with the following amended paragraph:

C18 [0077] Fig. 17 is useful in understanding the construction of the right hand cover member (26) adjacent the gear housing (34) (See Fig. 16), and, as well, the holes (54/55) for seating the dowel pins for registration plus the machined holes (60/62) for the drive shaft (35) and idler shaft ~~(60)~~ are shown. (drive shaft and idler shaft not shown)

Please replace paragraph [0078], beginning at line 12, at page 23, with the following amended paragraph:

C19 [0078] In Fig. 18 ~~is useful~~ there is shown, in enlarged perspective, the right hand cap member (24). This Figure is also noteworthy, in illustrating the inlet fluid passageway ~~(7a)~~ (49) and the outlet fluid passageway ~~(7b)~~ (49) for the fluid caused by the rotation of the gears (40/42) ~~and in directing fluid under pressure as indicated, in Fig. 2 to the outer or terminal end of through channel (46) to the actuator. The ball check valves (21a) and (23) are shown with the elements in spaced relationship for clarity of understanding.~~